AMENDMENT TO THE CLAIMS

1. (Currently amended) A method of establishing adjacencies on a network, the method comprising, at a first node of the network,

sending one or more hello packets on the network;

receiving one or more hello packets from other nodes on the network on the basis of the ~~received~~ sent hello packets;

in response to receiving the one or more hello packets, sending a first link-state packet ~~without adjacency information and without an overload bit set~~ in Intermediate System-to-Intermediate System protocol;

wherein the first link-state packet includes a field for an overload bit;

wherein the overload bit in said field is not set;

wherein the first link-state packet comprises no adjacency information;

interrogating a link-state adjacency table and, when only one adjacency is listed in the link-state table, sending a ~~further~~ second link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the second links state packet comprises ~~with the~~ adjacency information and ~~the~~ an overload bit that is set; and

on convergence of a forward cache, sending a further link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the further link-state packet comprises ~~with~~ adjacency information and ~~without the~~ an overload bit that is not set.

2. (Original) A method according to claim 1 wherein the method is initiated when the first node is in a restart node.

3. (Original) A method according to claim 2 wherein the restart node is a line card restart, a router restart or a download of a forwarding information base.

4. (Original) A method according to claim 1 wherein the network uses Intermediate System-to-Intermediate System protocol and wherein the adjacency information is advertised in a Type Length Variable field of the link-state packet.

5. (Currently amended) A method of re-establishing adjacency in an inter-networked system, the method comprising:

i) determining that adjacency establishment is required;

ii) transmitting a message to discover neighboring network elements;

iii) receiving one or more messages from neighboring network elements; and

iv) in response to the one or more received messages, generating a first link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the first link-state packet includes a field for an overload bit;

wherein the overload bit in said field is not set;

wherein the first link-state packet comprises no adjacency information;

v) sending the first link-state packet ~~without adjacency information and without an overload bit set~~;

vi) interrogating a link-state adjacency table and, when only one adjacency is listed in the link-state table, sending a ~~further~~ second link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the second links state packet comprises ~~with the~~ adjacency information and ~~the~~ an overload bit that is set; and

vii) on convergence of a forward cache, sending a further link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the further link-state packet comprises ~~with~~ adjacency information and ~~without the~~ an overload bit set that is not set.

6. (Currently amended) A computer-readable storage medium carrying one or more sequences of instructions for establishing adjacency in a network, which instructions, when executed by one or more processors, cause the one or more processors to carry out the steps of:

sending one or more hello packets on the network;

receiving one or more hello packets from other nodes on the network on the basis of the ~~received~~ sent hello packets;

in response to receiving the one or more hello packets, sending a first link-state packet ~~without adjacency information and without an overload bit set~~ in Intermediate System-to-Intermediate System protocol;

wherein the first link-state packet includes a field for an overload bit;

wherein the overload bit in said field is not set;

wherein the first link-state packet comprises no adjacency information;

interrogating a link-state adjacency table and, when only one adjacency is listed in the link-state table, sending a ~~further~~ second link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the second links state packet comprises ~~with the~~ adjacency information and ~~the~~ an overload bit that is set; and

on convergence of a forward cache, sending a further link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the further link-state packet comprises ~~with~~ adjacency information and ~~without the~~ an overload bit that is not set.

7. (Previously Presented) A computer-readable storage medium as claimed in claim 6 further comprising instructions which, when executed by the one or more processors, cause the one or more processors to carry out the steps of:

initiating the method when in a restart node.

8. (Previously Presented) A computer-readable storage medium as claimed in claim 6 further comprising instructions which, when executed by the one or more processors, cause the one or more processors to carry out the steps of:

initiating the method when in a restart mode comprising one or more of the following: a line card restart, a router restart or a download of a forwarding information base.

9. (Previously Presented) A computer-readable storage medium according to claim 6 wherein the network uses Intermediate System-to-Intermediate System protocol and wherein the adjacency information is advertised in a Type Length Variable field of the link-state packet.

10. (Currently amended) A computer-readable storage medium carrying one or more sequences of instructions for establishing adjacency in a network, which instructions, when executed by one or more processors, cause the one or more processors to carry out the steps of:

i) determining that adjacency establishment is required;

ii) transmitting a message to discover neighboring network elements;

iii) receiving one or more messages from neighboring network elements; and

iv) in response to the one or more received messages, generating a first link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the first link-state packet includes a field for an overload bit;

wherein the overload bit in said field is not set;

wherein the first link-state packet comprises no adjacency information;

v) sending the first link-state packet ~~without adjacency information and without an overload bit set~~;

vi) interrogating a link-state adjacency table and, when only one adjacency is listed in the link-state table, sending a ~~further~~ second link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the second links state packet comprises ~~with the~~ adjacency information and ~~the~~ an overload bit that is set; and

vii) on convergence of a forward cache, sending a further link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the further link-state packet comprises ~~with~~ adjacency information and ~~without the~~ an overload bit set that is not set.

11. (Currently amended) Apparatus for establishing adjacencies on a network, the apparatus comprising:

means for sending or more hello packets on the network;

means for receiving one or more hello packets from other nodes on the network on the basis of the ~~received~~ sent hello packets;

means for, in response to receiving the one or more hello packets, sending a first link-state packet ~~without adjacency information and without an overload bit set~~ in Intermediate System-to-Intermediate System protocol;

wherein the first link-state packet includes a field for an overload bit;

wherein the overload bit in said field is not set;

wherein the first link-state packet comprises no adjacency information;

means for interrogating a link-state adjacency table and, when only one adjacency is listed in the link-state table, sending a ~~further~~ second link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the second links state packet comprises ~~with the~~ adjacency information and ~~the~~ an overload bit that is set; and

on convergence of a forward cache, means for sending a further link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the further link-state packet comprises ~~with~~ adjacency information and ~~without the~~ an overload bit that is not set.

12. (Currently amended) Apparatus for re-establishing adjacency in an inter-networked system, the apparatus comprising:

i) means for determining that adjacency establishment is required;

ii) means for transmitting a message to discover neighboring network elements;

iii) means for receiving one or more messages from neighboring network elements; and

iv) means for in response to the one or more received messages, generating a first link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the first link-state packet includes a field for an overload bit;

wherein the overload bit in said field is not set;

wherein the first link-state packet comprises no adjacency information;

v) means for sending the first link-state packet ~~without adjacency information and without an overload bit set~~;

vi) means for interrogating a link-state adjacency table and, when only one adjacency is listed in the link-state table, sending a ~~further~~ second link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the second links state packet comprises ~~with the~~ adjacency information and ~~the~~ an overload bit that is set; and

vii) on convergence of a forward cache, means for sending a further link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the further link-state packet comprises ~~with~~ adjacency information and ~~without the~~ an overload bit set that is not set.

13. (Currently amended) An apparatus for establishing adjacencies on a network, the apparatus comprising:

a network interface that is coupled to the network for receiving one or more packet flows therefrom;

a processor;

one or more stored sequences of instructions which, when executed by the processor,

cause the processor to carry out the steps of:

sending one or more hello packets on the network;

receiving one or more hello packets from other nodes on the network on the basis of the ~~received~~ sent hello packets;

in response to receiving the one or more hello packets, sending a first link-state packet ~~without adjacency information and without an overload bit set~~ in Intermediate System-to-Intermediate System protocol;

wherein the first link-state packet includes a field for an overload bit;

wherein the overload bit in said field is not set;

wherein the first link-state packet comprises no adjacency information;

interrogating a link-state adjacency table and, when only one adjacency is listed in the link-state table, sending a ~~further~~ second link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the second links state packet comprises ~~with the~~ adjacency information and ~~the~~ an overload bit that is set; and

on convergence of a forward cache, sending a further link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the further link-state packet comprises ~~with~~ adjacency information and ~~without the~~ an overload bit that is not set.

14. (Currently amended) An apparatus for establishing adjacencies on a network, the apparatus comprising:

a network interface that is coupled to the network for receiving one or more packet flows therefrom;

a processor;

one or more stored sequences of instructions which, when executed by the processor, cause the processor to carry out the steps of:

i) determining that adjacency establishment is required;

ii) transmitting a message to discover neighboring network elements;

iii) receiving one or more messages from neighboring network elements; and

iv) in response to the one or more received messages, generating a first link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the first link-state packet includes a field for an overload bit;

wherein the overload bit in said field is not set;

wherein the first link-state packet comprises no adjacency information;

v) sending the first link-state packet ~~without adjacency information and without an overload bit set~~;

vi) interrogating a link-state adjacency table and, when only one adjacency is listed in the link-state table, sending a ~~further~~ second link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the second links state packet comprises ~~with the~~ adjacency information and ~~the~~ an overload bit that is set; and

vii) on convergence of a forward cache, sending a further link-state packet in Intermediate System-to-Intermediate System protocol;

wherein the further link-state packet comprises ~~with~~ adjacency information and ~~without the~~ an overload bit set that is not set.